Quality improvement for pediatric tracheostomy patients: Establishment of a standardized care index

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ABSTRACT

Objective: To create a Pediatric Tracheostomy Care Index (PTCI) to standardize care and drive quality improvement efforts in this complex patient population.

Methods: A PTCI score for new tracheostomy patients was evaluated. The PTCI consists of 9 parameters: 1) Tracheostomy-related pressure injury, 2) Tracheostomy APN consultation/teaching, 3) EMR documentation of tracheostomy type/size and pertinent clinical information, 4) CPR training, 5) Home care set-up, 6) Clinic visit scheduled before discharge, 7) Clinic visit actually occurred within 60 days of discharge, 8) Family brought emergency care bag to clinic visit, 9) Endoscopic airway visualization at least every 12 months. Based on the PTCI scores, the number of missed opportunities per patient was tracked. Quality improvement interventions through a “Plan-Do-Study-Act” approach were performed.

Results: There was a 50% reduction in the PTCI, quantified as missed opportunities per patient, from baseline. A key driver diagram and run chart of the PTCI data will be presented as well as the specific quality improvement process interventions discussed.

Conclusion: The establishment of a PTCI has been successful at our institution at standardizing, quantifying, and monitoring the consistency and documentation of care provided. A reduction of missed care opportunities per patient was achieved, and our continued surveillance will steer future directions to provide optimal patient care.

INTRODUCTION

• Increasing emphasis on patient safety and quality improvement (QI) in medicine.
• In 2009, Nationwide Children’s Hospital launched “Zero Hero” program
• Hospital-wide education and created infrastructure for QI projects at all levels; Plan-Do-Study-Act approach.
• Pediatric tracheostomy patients present a complex population for care coordination.

Objectives: 
• Establish the PCTI and use it for surveillance of care provided after new tracheostomy tube placement.
• Evaluate the TCI concept and identify areas for practice improvement.
• Ensure that care is standardized for a safe discharge to home.

METHODS AND INTERVENTIONS

ABSTRACT

Tracheostomy Care Index

<table>
<thead>
<tr>
<th>Key Driver Diagram</th>
<th>Design Changes/Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Aim</td>
<td></td>
</tr>
<tr>
<td>Reduce Trach Care</td>
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<td>Index Missed</td>
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• TCI for each patient calculated beginning during the admission when tracheostomy tube was placed.
• 9 care components documented in EMR. TCI tracked quarterly as a % of missed care opportunities per patient.
  Pre-operative (I)
  Tracheostomy APN consultation/caregiver teaching.
  Post-operative (II)
  CPR training, home equipment arranged, follow-up appointment scheduled, complex patient Smartset completed in EMR, presence of post-op supplies present at clinic visit, airway visualization at least annually (clinical or OH).

NO CASES OF ACCIDENTAL TRACHEOSTOMY TUBE DECANNULATION SINCE WOUND PREVENTION PROTOCOL INITIATION

Marpac Inc. Comfort Collar Advantages
Built-in neoprene dressing that fits under flanges of tracheostomy tube plate, providing a consistent protective barrier.
More secure Velcro design—greater contact surface area and any over-lapping Velcro on smaller neonatal necks can stick to itself.
Reduced material and labor costs on our daily post-op wound prevention protocol.

CONCLUSION

• There is currently no published literature utilizing care indices to assess outcomes in the field of tracheostomy, otolaryngology, adult or pediatric.
• The Pediatric Tracheostomy Care Index (PTCI) at our institution has helped to drive quality improvement efforts.
• We achieved a 50% reduction in the PTCI, quantified as missed opportunities per patient.
• Targeted quality improvement projects can be performed to target challenging PTCI elements, such as the elimination of advanced stage post-operative tracheostomy-related pressure wounds, which using our team-based protocol has been maintained at our institution for >5 consecutive years.

References